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Morrow et al.

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(54) **PROTECTIVE ATHLETIC EQUIPMENT**

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Related U.S. Application Data

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A41D 27/26 (2006.01)

(52) **U.S. Cl.** **2/462**

(58) **Field of Classification Search** 2/44, 2/45, 459, 463, 455, 461, 462, 102, 2.5, 92, 2/94, 467

See application file for complete search history.

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(57) **ABSTRACT**

A upper body protective garment for cushioning blows imparted upon the wearer's body includes a chest protector portion, a back protector portion, and a pair of telescopic shoulder protector portions. These protector portions preferably form a single integral unit. Each telescopic shoulder protector portion includes an inner-shoulder protector portion and an outer-shoulder protector portion that is telescopically coupled to the inner-shoulder protector portion. The outer-shoulder protector portion is moveable between an extended position and a retracted position for allowing an individual wearing the protective garment to raise his arm without interference from the telescopic shoulder protector portion.

9 Claims, 5 Drawing Sheets

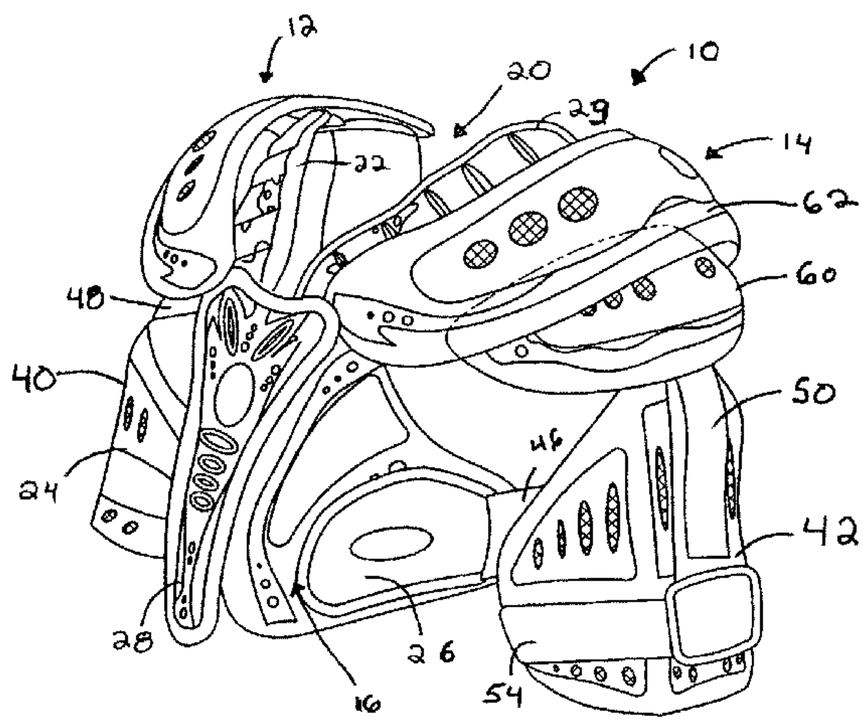

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Figure 1

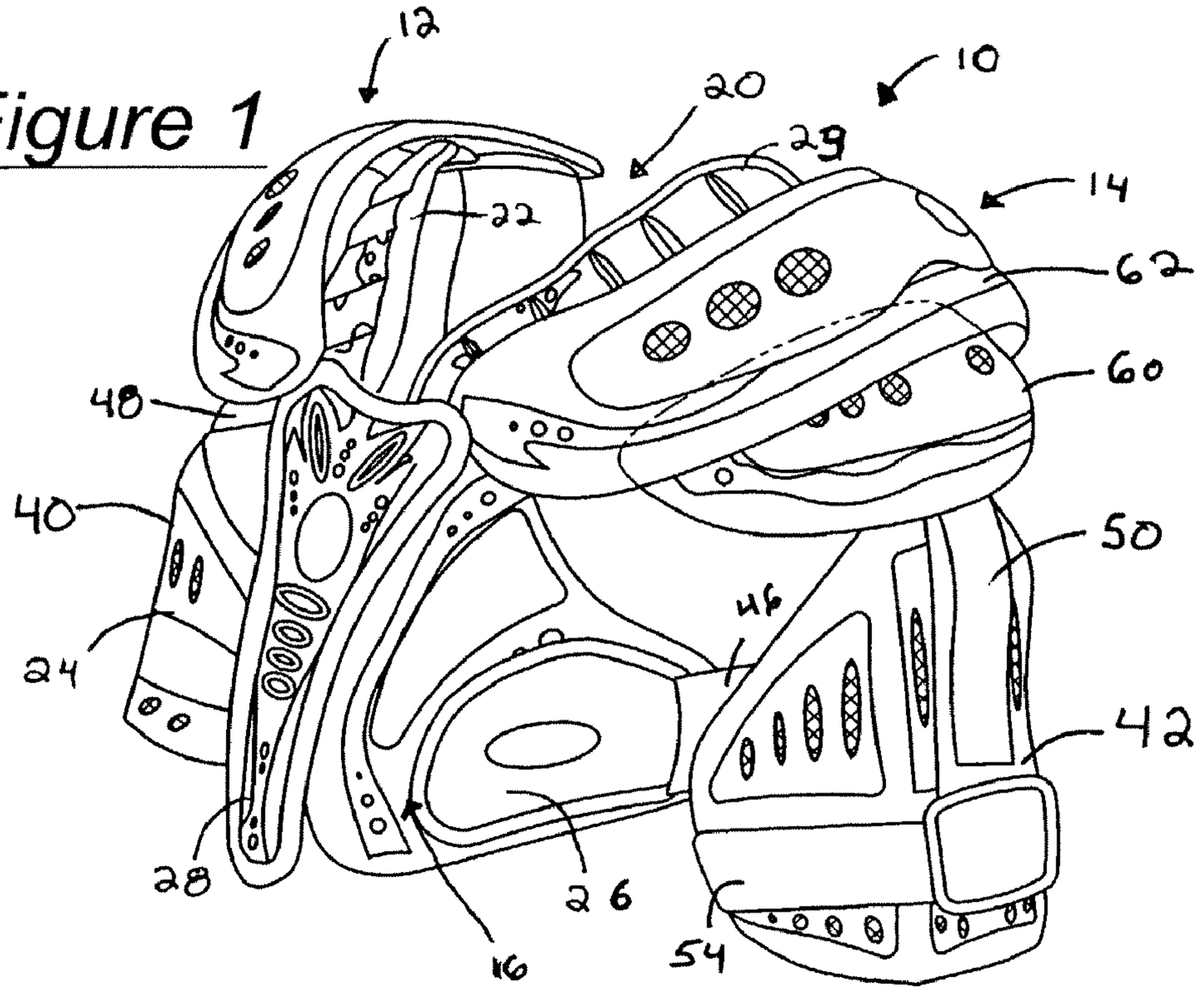


Figure 2

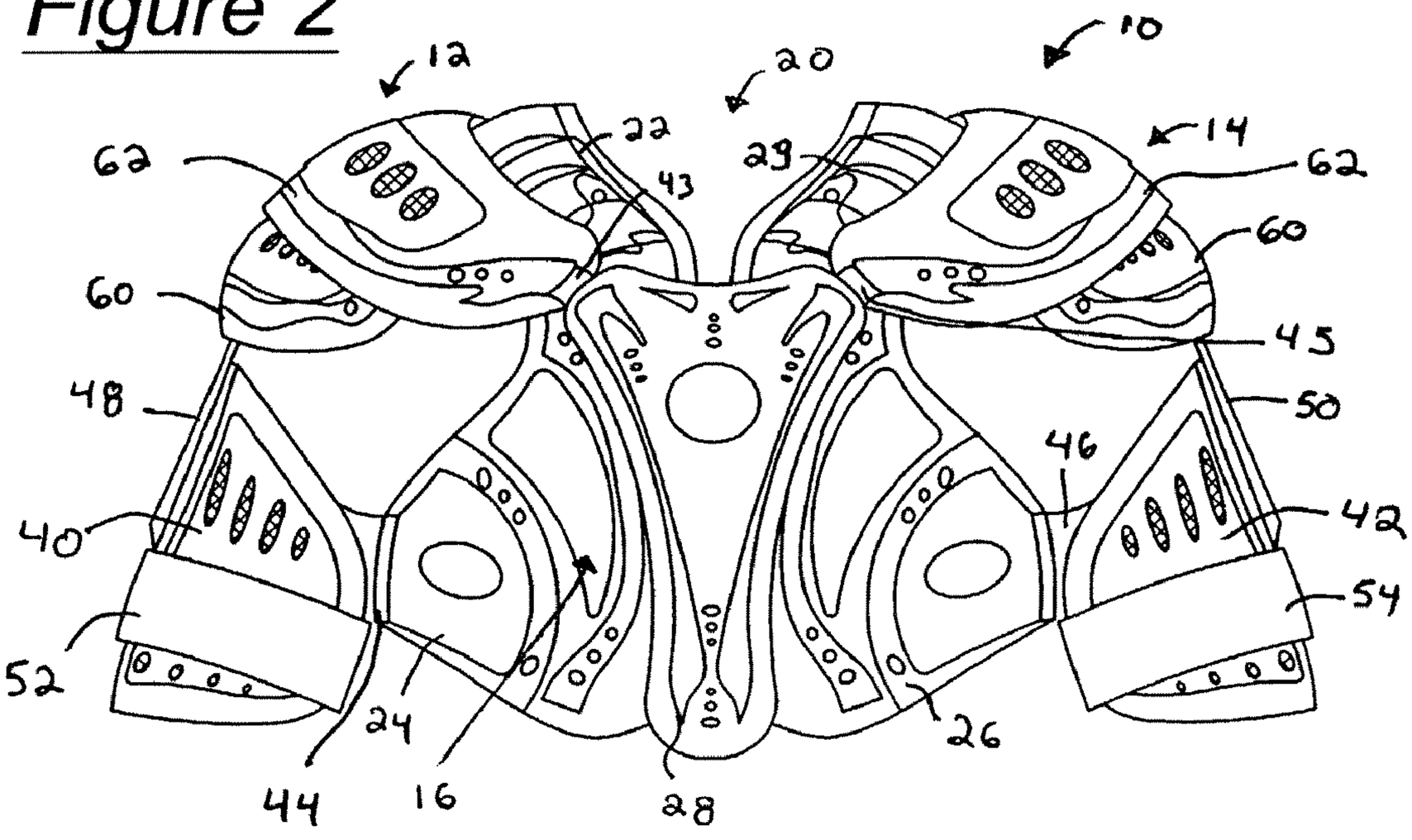


Figure 3

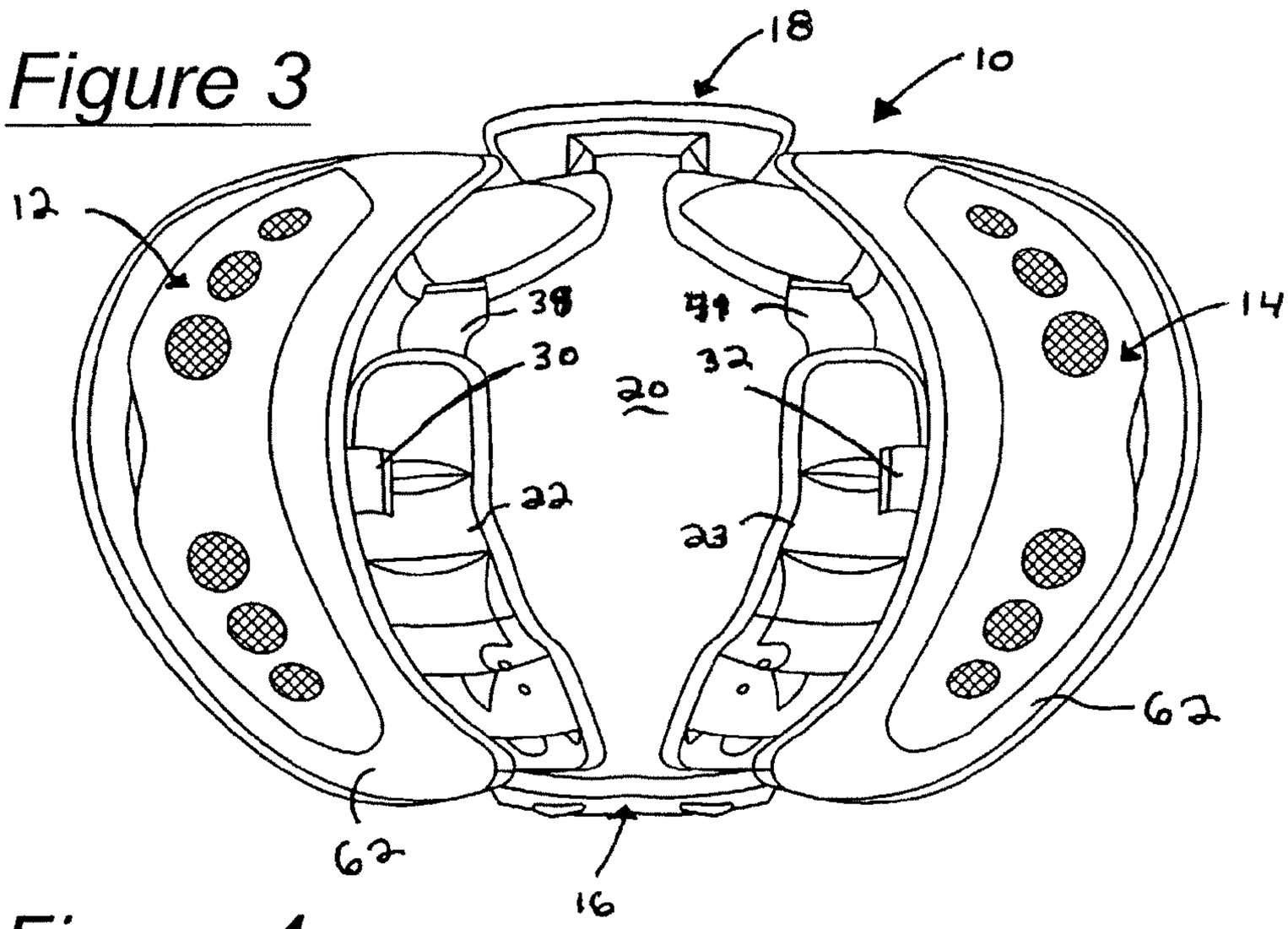


Figure 4

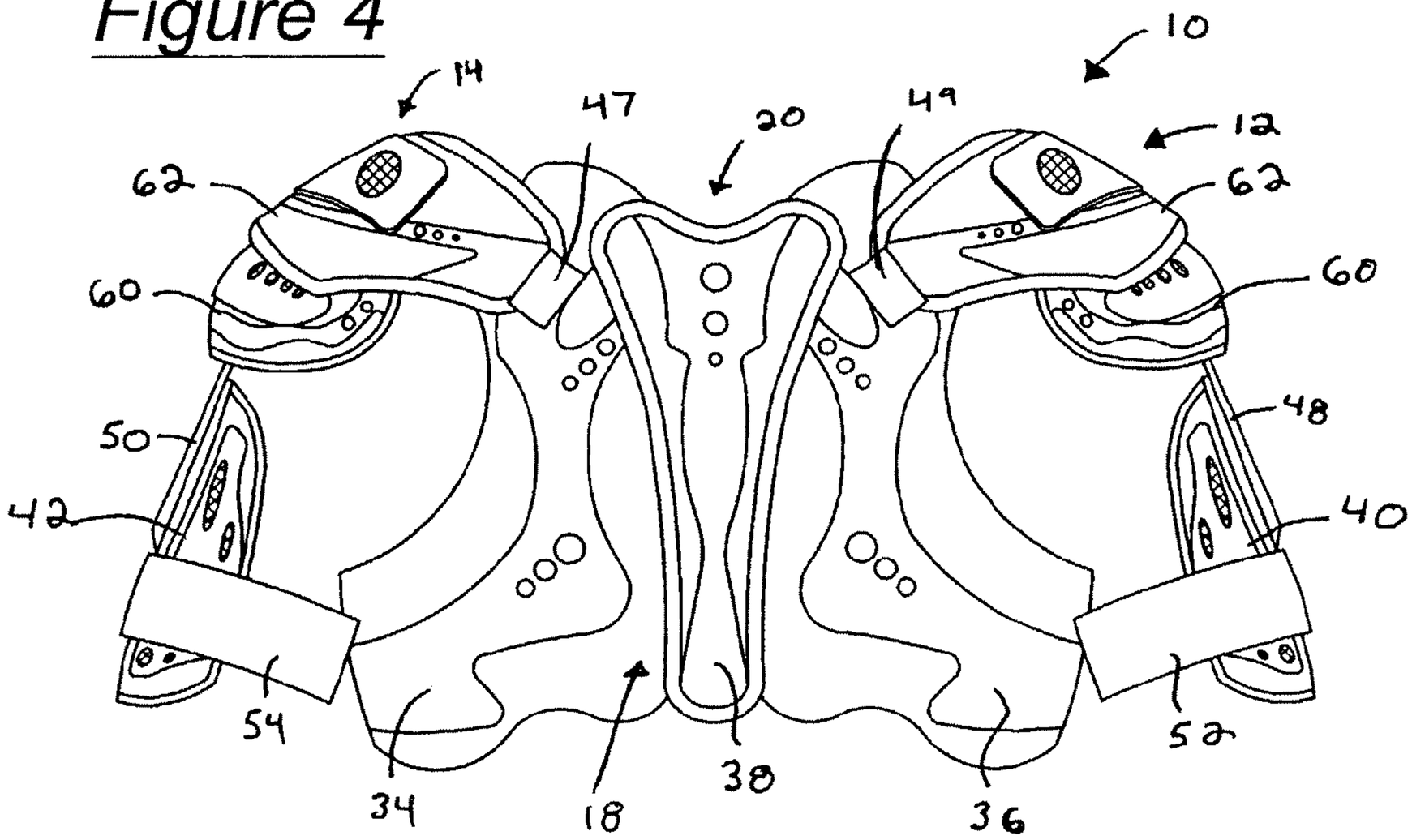


Figure 5a

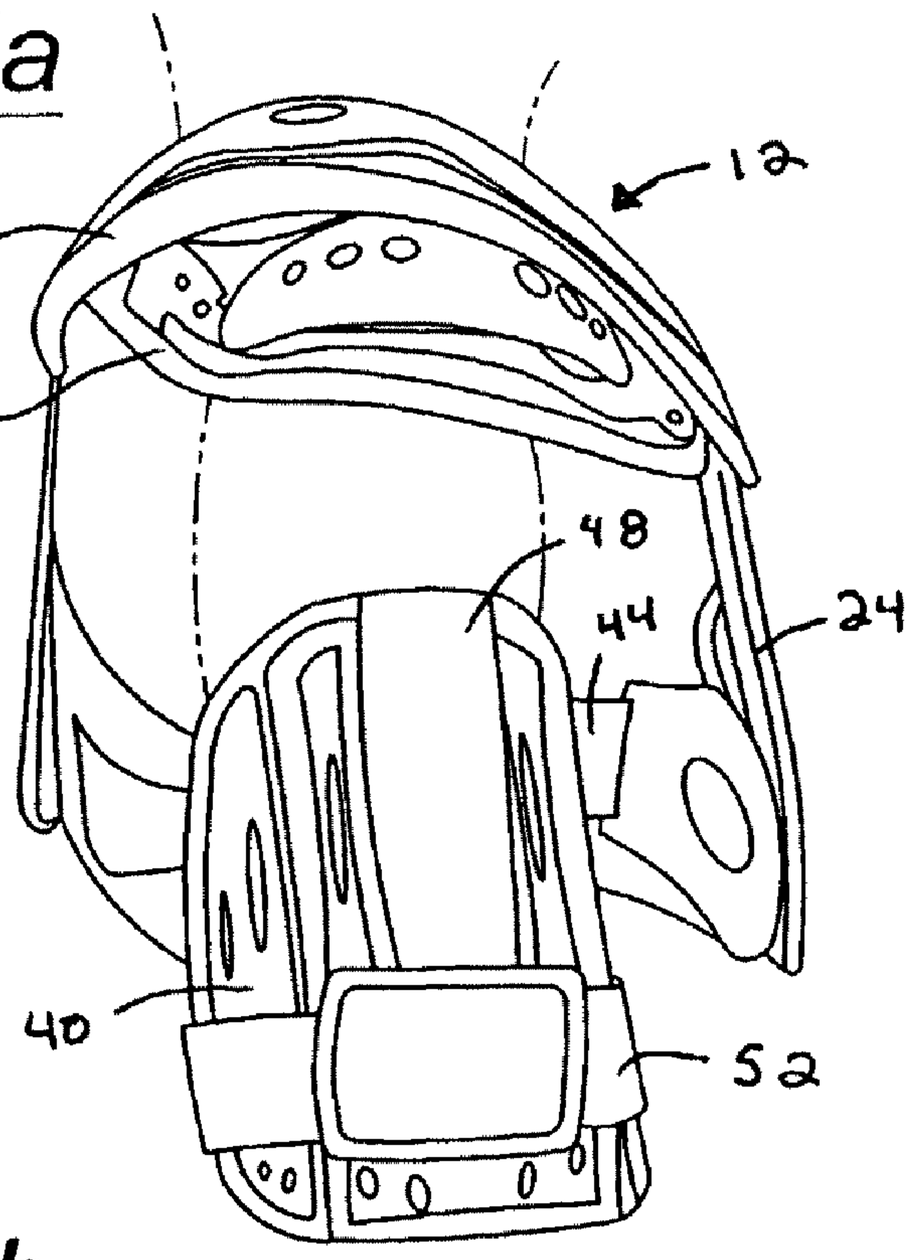


Figure 5b

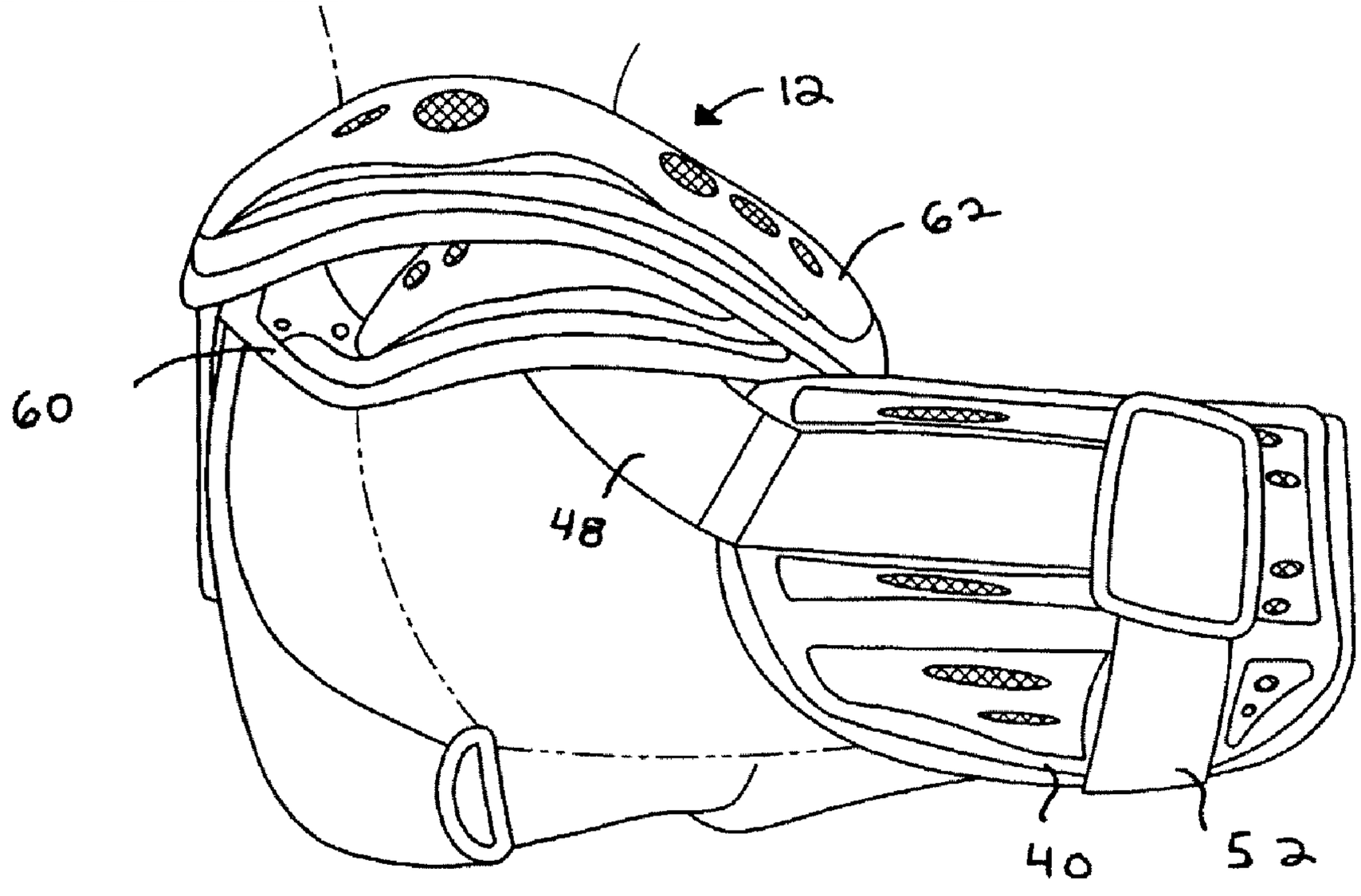


Figure 6

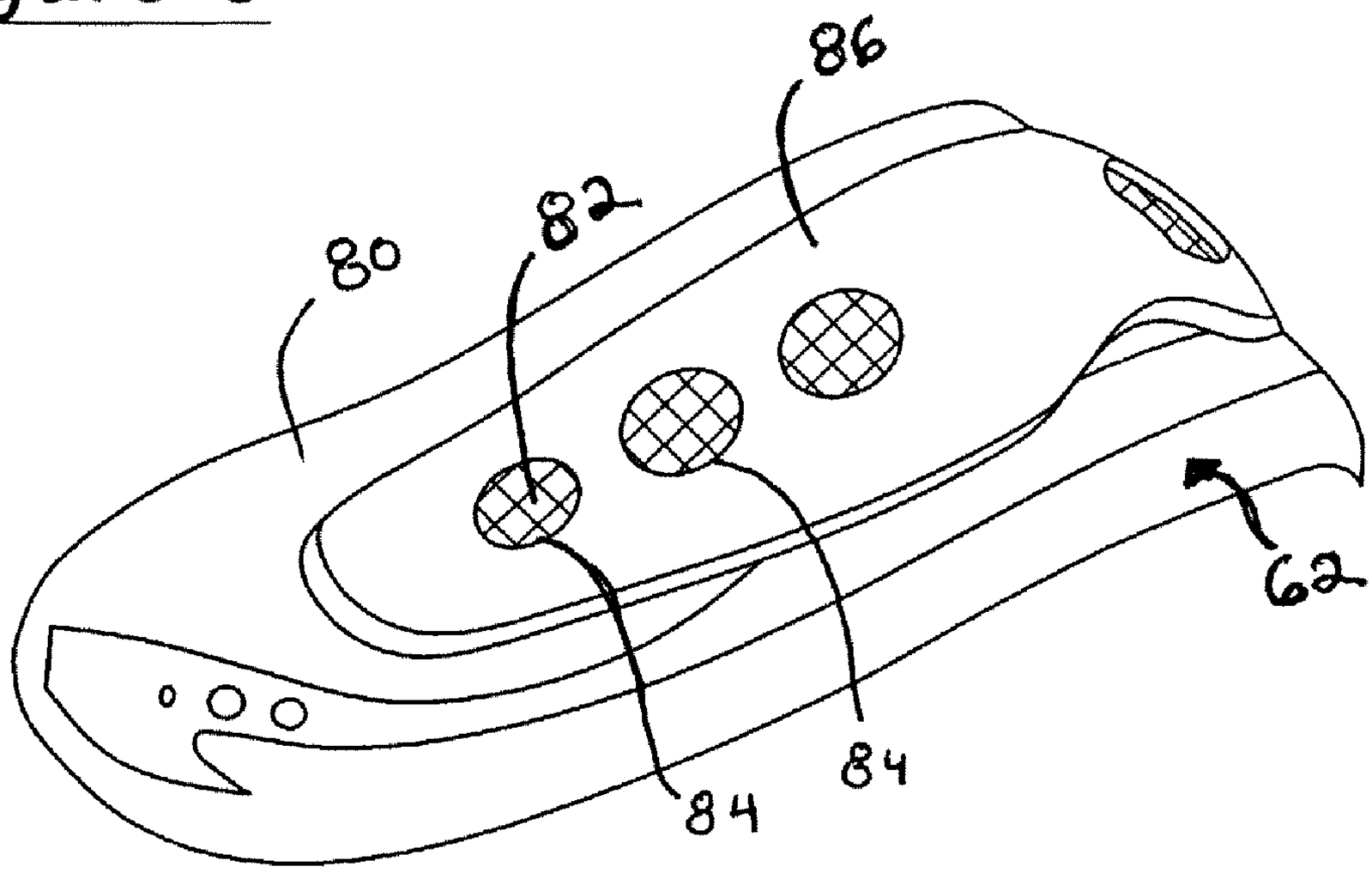


Figure 7

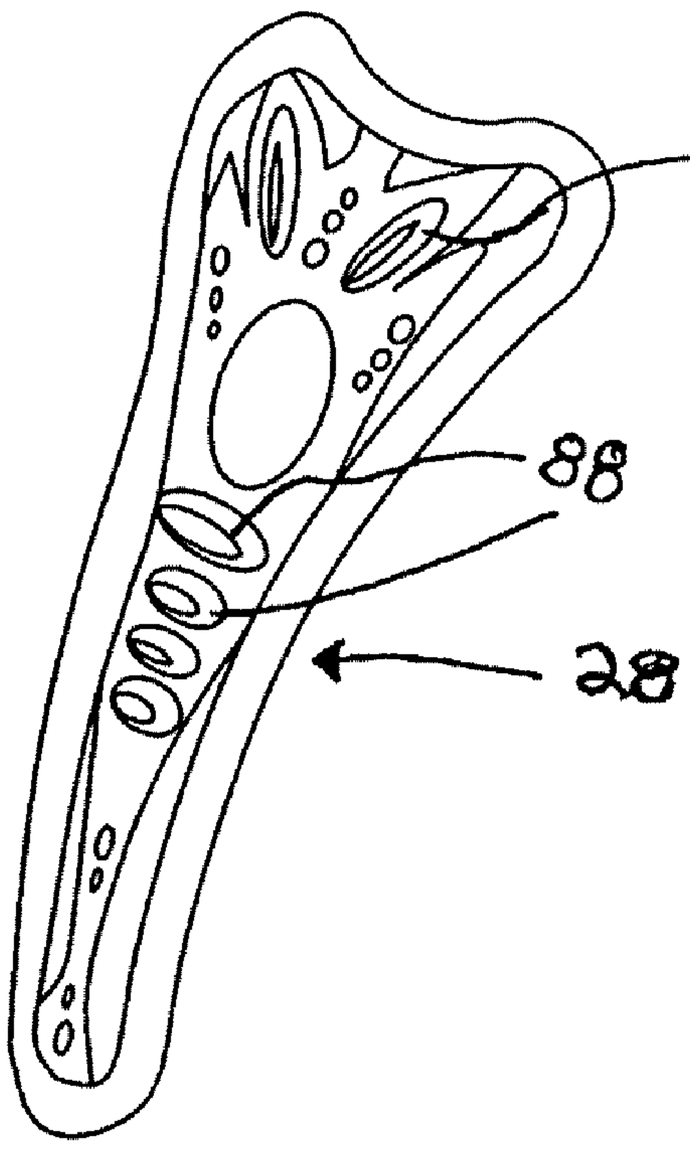


Figure 8

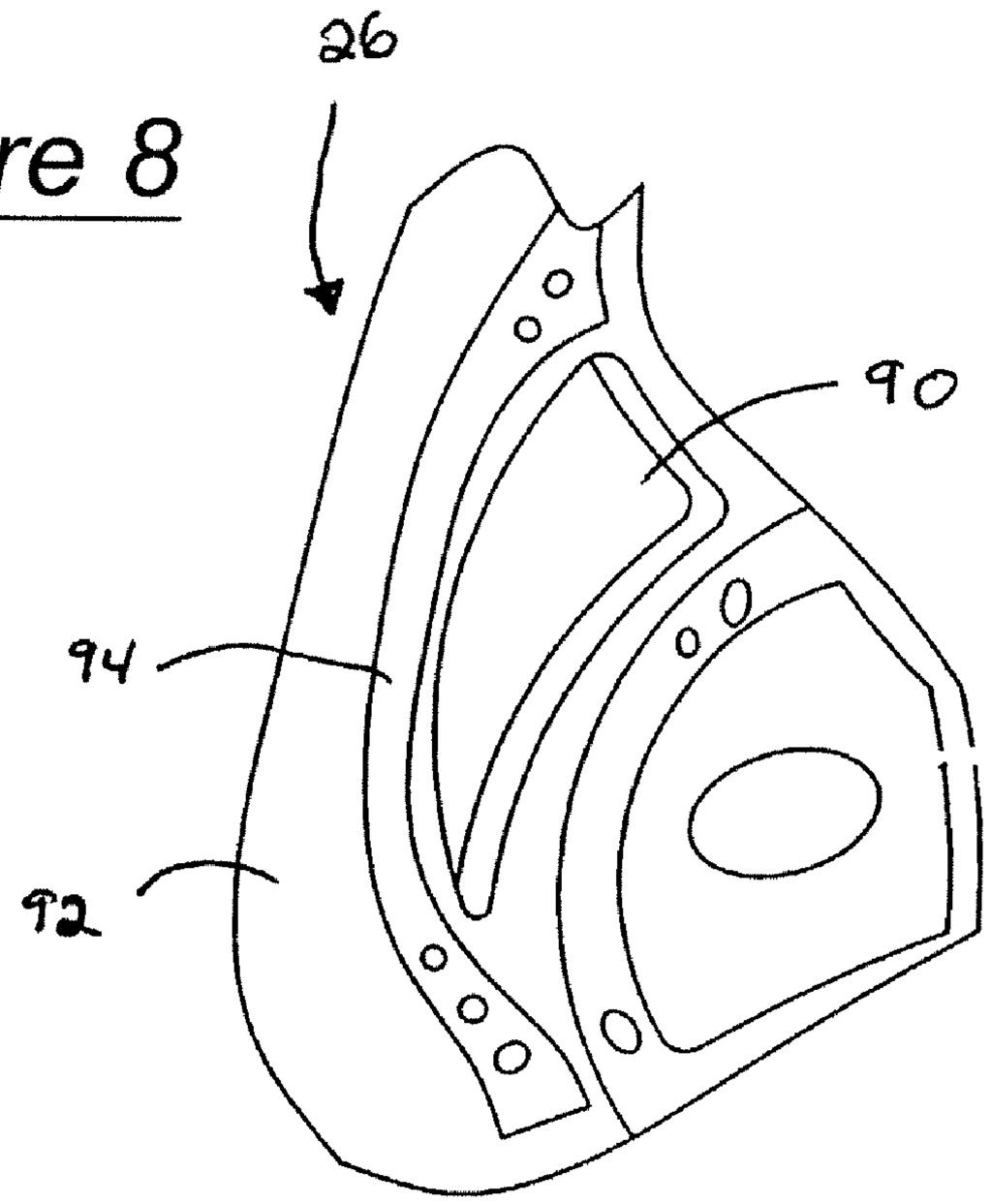
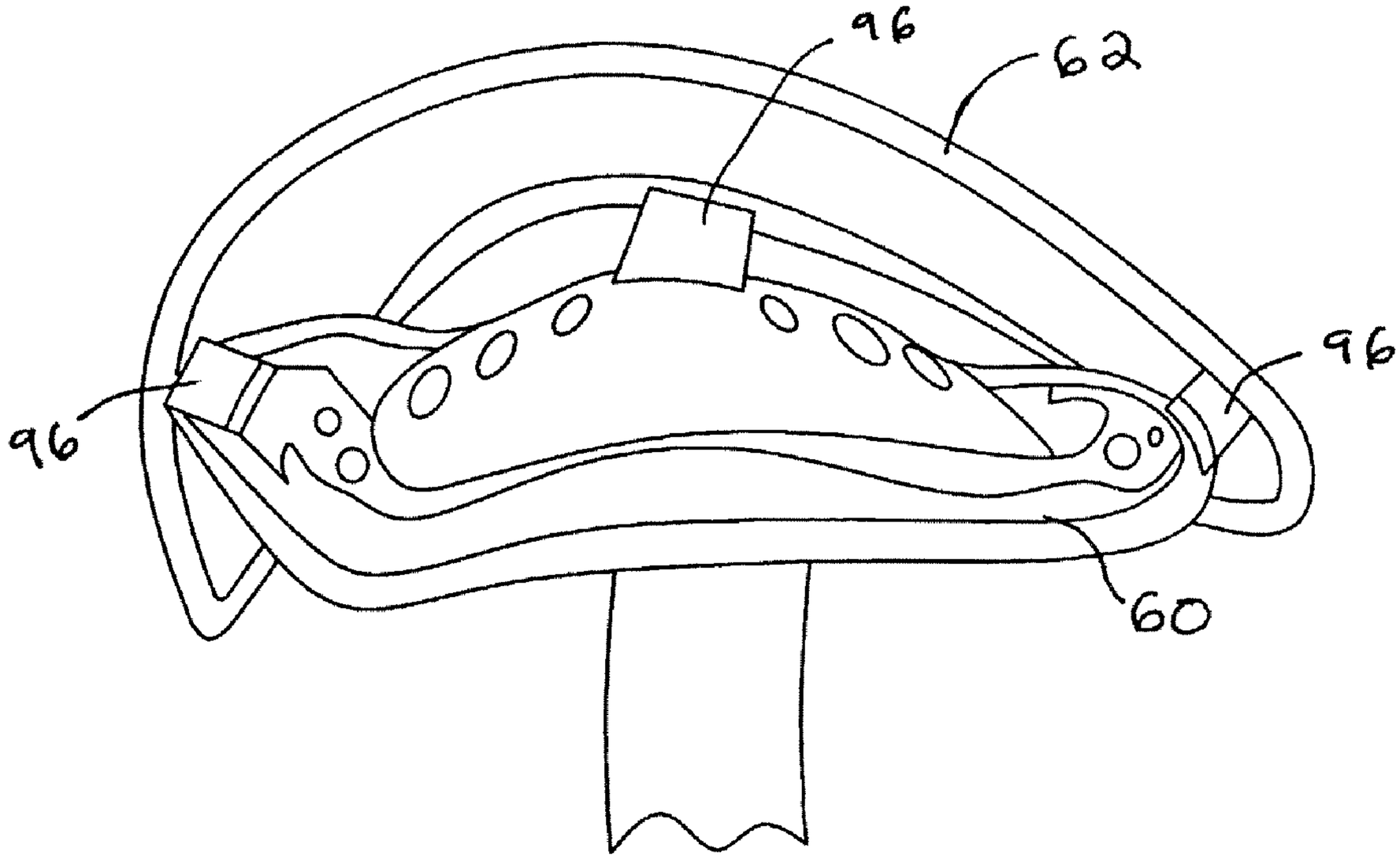


Figure 9



PROTECTIVE ATHLETIC EQUIPMENT

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation of U.S. patent application Ser. No. 10/852,015 entitled "Protective Athletic Equipment With Improved Ventilation" filed on May 24, 2004 now U.S. Pat. No. 7,487,556, which is a continuation of U.S. application Ser. No. 10/417,302 entitled "Protective Athletic Equipment" filed on Apr. 16, 2003 which is now U.S. Pat. No. 7,103,924.

TECHNICAL FIELD

The present invention relates generally to protective equipment for shielding a wearer's body from unwanted forces and potential injury. More particularly, the present invention relates to protective equipment having moveable armor modules for providing a wide range of unfettered body movement while providing maximum cushioning against blows imparted upon the upper body during athletic competition.

BACKGROUND OF THE INVENTION

Upper body protective equipment is commonly worn by participants of contact sports for the purpose of preventing injuries to their shoulders, back, and chest. These kinds of injuries ordinarily are associated with sports such as lacrosse, hockey, and football. In these contact sports, various situations may cause upper body injuries. Examples of these situations include tackling or otherwise bumping into other players, falling to the playing surface, being struck by another player's game equipment, or being struck by the game ball itself. Of course, upper body protective equipment may reduce or prevent injuries resulting from various other circumstances, including those not associated with contact sports.

Existing upper body protective equipment utilizes a relatively significant amount of foam padding for absorbing the energy of blows delivered to the wearer's upper body. Moreover, a rigid cover, typically made of plastic, usually overlays the foam padding to distribute the force of the blow across a larger area of the foam padding. As is known in the art, distributing the force in this manner permits the foam padding to absorb a substantial portion of the energy associated with the blow thereby preventing the force from being imparted directly to the wearer's body.

One drawback of foam padding is that the repeated compression and expansion of the foam padding may over time cause the foam padding to fatigue and lose its ability to absorb energy. Another drawback is that the combined use of the foam padding and the rigid cover adds relatively significant weight to the protective equipment. Heavier equipment is undesirable as it causes a wearer to expend more energy participating in the sport due to the burden of having to carry this additional weight.

Another drawback of existing upper body protective equipment is that the rigid cover can interfere with the free movement of the wearer's limbs. For example, a relatively large rigid cover can be utilized to protect the wearer's shoulder. The edge of this rigid cover can become sandwiched between the wearer's upper arm and his neck or simply pinch the wearer's neck as the wearer lifts his arm, e.g. when a lacrosse player begins to throw the lacrosse ball. This obviously causes significant discomfort to a wearer and can interfere with his ability to participate in the sport. Moreover, it is contemplated that the rigid cover can be positioned over other portions of the body and prevent the wearer from freely moving various other limbs. Attempts to provide protective equipment that provides increased freedom of movement for a wearer have resulted in a corresponding decrease in the amount of upper body protection provided. There is thus a tradeoff between freedom of movement and maximum protection.

Yet another drawback of existing protective equipment is that the contiguous rigid cover and foam combination typically forms a continuous section of padding that can substantially insulate the wearer's body. In other words, the protective equipment can form a thermal barrier that prevents heat from efficiently dissipating from the wearer's body. This thermal barrier can substantially increase the wearer's body temperature as he generates an increasing amount of heat during his participation in the game. This result is obviously disadvantageous because it can decrease the comfort level of the wearer, compromise his physical ability to participate in the sport, or even present a risk to the wearer's health.

Still another drawback of existing upper body protective equipment is that the equipment can include a series of external belt fasteners utilized for attaching separate padding sections of the garment together. These external belt fasteners are disadvantageous because they can provide a hold for opponents or otherwise allow for the opponent's equipment, e.g. lacrosse stick, to be caught thereon.

A further drawback of existing upper body protective equipment is that they can include separate portions of decorative fabric that are stitched together. Stitching these portions of fabric together is disadvantageous because it typically requires a substantial amount of time to stitch the fabric portions together. Moreover, the size of these stitched designs is limited due to conventional sewing or stitching processes. For this reason, the manufacturing cycle time and the costs associated therewith can be substantially high. Moreover, to reduce these increased costs, existing upper body protective equipment can instead include decorative markings that are painted or otherwise applied to the surface of the rigid cover. However, these markings have minimum longevity and can be easily scratched or otherwise scraped off the protective equipment, including during normal usage. Such results clearly are undesirable.

Therefore, a need exists for a piece of upper body protective equipment that cushions against powerful blows, allows for the unfettered movement of the wearer's arms in all directions, efficiently dissipates heat from the wearer, decreases the weight of the equipment carried by the wearer, and decreases the manufacturing cycle time and the costs associated therewith.

Protective gear also exists to protect other parts of the body from injury during contact athletic events. Such protective equipment includes, gloves, elbow pads, shin guards, and hip pads. Similar to the upper body protective equipment described above, this protective equipment can include similar structural limitations and thus suffers from the same deficiencies discussed above.

Therefore, a need also exists for protective equipment to cover any part of the body and cushion against powerful blows, allows for the free movement of any of the wearer's limbs in all directions, efficiently dissipates heat from the

wearer, decreases the weight of the equipment carried by the wearer, and decreases the manufacturing cycle time and the costs in connection therewith.

SUMMARY OF THE INVENTION

It is therefore one advantage of the present invention to provide a piece of upper body protective equipment that allows a wearer to move his limbs in all directions and simultaneously provides improved protection for the body of the wearer.

It is another advantage of the present invention to provide a piece of upper body protective equipment that is durable and can withstand a substantial number of blows over a significant period of time.

It is still another advantage of the present invention to provide a piece of upper body protective equipment that dissipates heat from a wearer and allows the wearer to preserve his physical stamina and energy for participating in the sport.

It is yet another advantage of the present invention to provide a piece of upper body protective equipment that is lightweight and allows a wearer to expend less energy carrying the garment.

It is a further object of the present invention to provide a piece of upper body protective equipment that includes internal fasteners which attach separate padding sections of the equipment without providing a hold for opponents or otherwise allowing an opponent's equipment to be caught thereon.

It is yet a further object of the present invention to provide a piece of upper body protective equipment that includes two or more pieces of fabric attached together by a radio frequency weld to decrease the manufacturing cycle time and the costs associated therewith and allows for smaller and more intricate designs.

In accordance with the above and the other advantages of the present invention, a piece of protective equipment is provided for cushioning blows imparted upon the body of a user. In one embodiment, the piece of protective equipment includes a chest protector portion, a back protector portion, and a pair of telescopic shoulder protector portions in connection between the chest protector portion and the back protector portion. Each shoulder protector portion includes an inner-shoulder protector portion and an outer-shoulder protector portion that is telescopically coupled to the mid-shoulder protector portion. Each outer-shoulder protector portion is moveable between an extended position and a retracted position allowing an individual wearing the piece of protective equipment to raise his arm without interference from the protective equipment.

Other advantages of the present invention will become apparent when viewed in light of the detailed description of the preferred embodiment when taken in conjunction with the attached drawings and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of this invention, reference should now be made to the embodiments illustrated in greater detail in the accompanying drawings and described below by way of examples of the invention.

FIG. **1** is a perspective view of a piece of upper body protective equipment in accordance with one embodiment of the present invention;

FIG. **2** is a front view of the piece of upper body protective equipment of FIG. **1**;

FIG. **3** is a top view of the piece of upper body protective equipment as shown in FIG. **1**;

FIG. **4** is a rear view of the piece of upper body protective equipment as shown in FIG. **1**;

FIG. **5**A is a side view of a piece of upper body protective equipment having a telescopic shoulder protector portion with an outer-shoulder protector portion in an extended position relative to an inner-shoulder protector portion in accordance with one embodiment of the present invention;

FIG. **5**B is a side view of the upper body protective garment shown in FIG. **5**B illustrating the outer-shoulder protector portion in a retracted position underneath the inner-shoulder protector portion;

FIG. **6** is an enlarged view of an inner-shoulder protector portion in accordance with one embodiment of the present invention;

FIG. **7** is an enlarged view of a middle portion of a chest protector portion of a piece of upper body protective equipment in accordance with one embodiment of the present invention;

FIG. **8** is an enlarged view of two sections of fabric fastened together by a radio frequency weld in accordance with one embodiment of the present invention; and

FIG. **9** is a perspective view of a piece of upper body protective equipment having a series of internal belt fasteners for attaching two or more padding sections together in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

In the following figures, the same reference numerals are used to identify the same components in the various views.

Referring to FIGS. **1** through **4**, there is generally shown a piece of upper body protective equipment **10** ("equipment") worn by a user for the purpose of cushioning against blows delivered to the wearer's upper body such as commonly occurs during a contact sporting event. It will be understood that the disclosed protective garment or equipment is preferably intended for lacrosse. However, it will be understood that the equipment may be used for a variety of other uses, including other contact sports, such as hockey. Although the protective equipment **10** preferably is for protecting the upper body of a wearer, it will be appreciated that the protective equipment may be utilized to protect a variety of different body parts. The protective equipment may, for example, be used to protect a wearer's elbow, shin, hand, wrist, forearm and hip as well as other parts of the body.

The equipment **10** includes a pair of telescopic shoulder protector portions **12**, **14** (as discussed in detail in connection with for FIGS. **5**A-**5**B and **6**) with a chest protector portion **16** and a back protector portion **18** extending therefrom. Preferably, the pair of telescopic shoulder protector portions **12**, **14**, the chest protector portion **16**, and the back protector portion **18** are configured or assembled as a single unit such that the wearer can put it on as a single unit. The equipment **10** includes an opening **20** generally bounded by the pair of telescopic shoulder protector portions **12**, **14**, the chest protector portion **16**, and the back protector portion **18**. The opening **20** is intended to receive a wearer's head and neck therethrough.

As shown in FIGS. **1** through **4**, the equipment **10** includes a pair of protective neck portions **22**, **23**, that, at least in part, underlie and work in connection with the pair of telescopic shoulder protection portions **12**, **14**, the chest protector portion **16**, and the back protector portion **18**. The chest protector portion **16** includes a first side protector portion **24**, a second side protector portion **26**, and a middle protector portion **28**. The protective neck portions **22**, **23** are secured to a respective

telescopic shoulder protection portion **12**, **14** by a strap **30**, **32** or other suitable attachment device. The back protector portion **18** includes a first side protector portion **34**, a second side protector portion **36**, and a middle protector portion **38**. The first back side protector portion **34** is secured to the protective neck portion **22** by a strap **39** or the like. The second backside protector portion **36** is secured to the protective neck portion **23** by a strap **41** or the like. The protective neck portions **22**, **23** are preferably integrally formed with a respective one of the side protector portions **24**, **26**.

The straps **30**, **32** are intended to prevent the inner-shoulder protector portion **60** from extending entirely beyond the protective neck portion **22**, **23**. In this regard, the straps **30**, **32** act as a detent member to limit the movement of the inner-shoulder protector portion **62** such that the inner-shoulder protector portion **62** always overlaps at least a minimum amount of the protective neck portion **22**, **23** when the inner-shoulder protector portion **62** is in the fully extended position. In that regard, the telescopic shoulder protector portion **12** has a continuous structure for protecting the wearer's entire shoulder when the telescopic shoulder protector portion **12** is disposed in the fully extended position, the fully retracted position, or any position therebetween.

It is noted that a variety of suitable straps **30**, **32**, other than inelastic strap members, can be utilized to limit the extension of the inner-shoulder portion **62**. In addition, it is understood that the straps **30**, **32** can attach or otherwise anchor the inner-shoulder protector portion **62** to various structures, including the protective neck portions **22**, **23**, the chest protector portion **16**, the back protector portion **18**, or various other suitable structures as desired.

Similarly, the pair of protective neck portions **22**, **23** are also preferably secured to a respective one of the side chest protector portions **24**, **26**. Additionally, the middle chest protector portion **28** is secured to each of the side protector portions **24**, **26** such as by hook or loop attachment or an adjustable strap. The telescopic shoulder portions **12**, **14** are each secured to a respective side front protector **24**, **26** by a strap **43**, **45**. The telescopic shoulder protector portions **12**, **14** are secured to the back protection portion **18** by straps **47**, **49** or other suitable attachment devices. Any of the straps or connections between the components can be adjustable straps, flexible straps, elastic straps, hook and loop attachment or other suitable attachment mechanism, which interconnects the various components of the equipment **10**. Alternatively, buckles or other suitable attachment mechanism may also be utilized. The attachment of the straps or the securing mechanism to the parts will be understood by one of ordinary skill in the art.

The equipment **10** also preferably includes a pair of arm protector segments **40**, **42** extending from each of the telescopic shoulder protector portions **12**, **14**. These arm protector segments **40**, **42** are well known in the art and may be constructed from a variety of different compositions, including foam padding. The arm protector segments **40**, **42** also preferably have a plastic covering or shell formed thereon for added protection. Each of the arm protection segments **40**, **42** is secured to a respective one of the pair of telescopic shoulder portions **12**, **14** by strap **48**, **50**.

Each of the arm protector segments **40**, **42** has a securing strap **52**, **54**, preferably comprised of elastic, that is intended wrap around a wearer's arm and keep the pad in position. It will be understood that the equipment **10** may take on a variety of different configurations with differently configured or oriented protector portions. Moreover, the protector portions can be secured or otherwise attached to one another in a variety of different ways and at a variety of different points as will be understood by one ordinary skill in the art. Additionally, the front side protector portion **24** is secured to the back side protector portion **24** by a strap **44**. Further, the front side protector portion **26** is secured to the back side protector portion **36** by a strap **46**. These straps can also be any suitable attachment mechanism.

Referring now FIGS. **5**A and **5**B, there are shown side views of the equipment **10**, respectively illustrating one of the telescopic shoulder protector portions **12** in an extended position and a retracted position, in accordance with one embodiment of the present invention. It will be understood by one of ordinary skill in the art that the configuration and operation of the other telescopic shoulder protector portion **14** is the same and thus need not be described in detail separately. This telescopic shoulder protector portion **12** includes an outer-shoulder protector portion **60** and an inner-shoulder protector portion **62**. The inner-shoulder protector portion **62** is in telescopic communication with the outer-shoulder protector portion **60**. The inner-shoulder protector portion **62** is secured to the protective neck portion **22** by the strap **30** to prevent relative movement of the inner-shoulder protector portion **62** with respect to the protective neck portion **22**. Obviously, some movement may occur, however, the configuration is intended, in one embodiment, to prevent the inner-shoulder protector portion **62** from overlying a substantial portion of the protective neck portion **22** and impinging on the neck portion. However, the strap **30** can be configured to allow more relative movement as desired. This ensures that the inner-shoulder protector portion **62** always at least partially overlies the outer-shoulder protector portion **60** to prevent exposure of a wearer's shoulder.

As shown in FIG. **5**A, when the telescopic shoulder portion **12** is in the extended position, i.e. when a wearer's neck and shoulder all the way to the wearer's upper arm are protected from impact and a wearer's arm is not raised. This configuration results from the protective neck portion **22**, which has an inner edge **64** that extends to contact or almost contact a wearer's neck and is oriented generally upward to prevent the edge from digging into a player's neck. The protective neck portion **22** is generally fixed in that it has little relative movement with respect to the wearer's neck. The inner-shoulder protector portion **62** is secured to and overlaps an outer edge **66** of the protective neck portion **22** to eliminate any gap therebetween. The inner-shoulder protector portion **62** includes an outer edge **68** which overlies an inner edge **70** of the outer-shoulder protection portion **60**.

This overlapping configuration maximizes protection for the user and eliminates any gaps between adjacent segment portions or between a wearer's neck and the equipment. This configuration differs from previous configurations, which in order to allow the shoulder segment to move leaves a gap between the shoulder segment and a wearer's neck, which exposes a portion of the wearer's shoulder or collarbone during play.

FIG. **5**B illustrates the telescopic shoulder portion **12** in a retracted position. The telescopic shoulder portion **12** is moveable between an extended position and a fully retracted position in connection with the movement of the wearer's arm. When a wearer begins to raise his arm, the telescopic shoulder portion **12** begins to retract. In other words, the outer-shoulder protector portion **60** moves inwardly with respect to the inner-shoulder protector portion **62** such that the inner shoulder protector portion **62** overlies a majority, if not all, of the outer-shoulder protector portion **62**. This lobster-like coupling of the inner-shoulder protector portion **62** and the outer shoulder protector portion **60** provides significantly increased flexibility for a wearer without sacrificing

protection. This is similar to the shells on a lobster's tail maneuver. It will be understood that the outer-shoulder protective portion **60** can be configured to overlie the inner shoulder protector portion **62** as the telescoping shoulder portion is moved to a retracted position. As the wearer brings his arm down, the strap **48** pulls the outer-shoulder protector portion **60** out from underneath the inner-shoulder protector portion **62** and returns the telescopic shoulder portion **12** to the extended position.

Referring now to FIG. **6**, there is shown a partially cutaway view of the inner-shoulder protector portion **62**, in accordance with one embodiment of the present invention. The description of the inner-shoulder protector portion is representative of any of the other protector portions that together comprise the equipment **10**. The inner-shoulder protector portion **62** is generally comprised of a foam padding layer **80**, a reinforcement wire screen layer **82** positioned above the foam padding layer **80**, and a rigid cover **86** overlaying the reinforcement wire screen layer **82** and at least a portion of the foam padding layer **80**. The wire screen layer **82** is preferably comprised of a metal material. However, it will be appreciated that the wire screen can be comprised of various other suitable materials as desired. These layers **80**, **82**, **86** are coupled together by way of stitching. However, it is noted that these layers **80**, **82**, **86** can be coupled together by various other suitable fastening methods, e.g. adhesive applications. Moreover, the rigid cover **86** is raised with respect to and secured to the surface of the foam padding layer **80**.

The combined use of foam padding **82** and the wire screen layer **82** provides the inner-shoulder protector portion **62** with substantial strength without significantly increasing the weight of the equipment **10**. Specifically, in comparison to the foam padding, the robust nature of wire screen can provide a greater amount of strength and energy absorbing capability to the mid-shoulder protector portion **62** than the foam padding. In addition, the wire screen layer **82** can withstand a substantially greater number of blows than the foam padding because the foam padding can fatigue more quickly and lose its resiliency after compressing and expanding a particular number of times. For these reasons, a relatively low amount of foam padding can be utilized within the foam padding layer **80** for the purpose of decreasing the overall weight of the equipment **10** without compromising the strength of the structure of the equipment **10**. Alternatively, depending upon the thickness of the wire screen layer **82**, it may have only a little impact resistance capabilities.

The rigid cover **86** in one embodiment is a plastic piece that is formed by compression molding techniques. This allows for a covering having high strength and light weight. The rigid cover **86** is intended to distribute the force of a delivered blow across a substantial portion of the wire screen layer **82** and the foam padding layer **80**. This configuration allows for a substantial amount of the delivered blow to be absorbed by the rigid cover **86** and prolongs the length of the durability of the foam padding for the same reasons discussed above in connection with the wire mesh layer **82** the foam padding. This rigid cover **86** may alternatively be comprised of various other suitable materials.

Furthermore, the rigid cover **86** has a series of openings **84** integrally formed therein for allowing heat to dissipate from the wearer's body through the equipment **10**. In particular, heat from the wearer's shoulder can pass through the relatively thin foam padding layer **80**, then subsequently through the reinforcement wire screen layer **82**, and finally through the openings **84** formed in the rigid cover **86**. This construction is beneficial because it can assist the wearer in maintaining his body temperature below a maximum threshold temperature thereby preserving the wearer's physical stamina and energy for participating in the game. The rigid cover **86**, the wire screen layer **82**, and the openings may also be employed on other portions of the equipment **10**, including the chest protector portion **16**, the back protector portion **18**, the front side protector portions **24**, **26**, the back side protector portions **34**, **36**, and the arm protector segments **40**, **42**.

Referring now to FIG. **7**, there is shown a magnified view of the middle chest protector portion **28**. This middle chest protector portion **28** includes one or more compression-molded foam elements **88**, **90** integrated therein. These compression-molded foam elements **88**, **90** have a substantially greater foam density and stiffness than conventional foam padding. Those foam segments **88**, **90** are also thicker than conventional foam segments. For that reason, each foam element **88**, **90** can absorb a significant amount of energy before the foam element is compressed by the blow delivered to the wearer's body. The compression molded foam elements are preferably positioned in high impact areas to provide a wearer with additional protection. For example, the compression molded foam elements or portions are positioned in the sternum area of the chest. Those of ordinary skill in the art will appreciate that these portions can be positioned in other high impact areas. Although FIG. **7** illustrates the compression-molded foam elements **88**, **90** integrated on the middle chest protector portion **28**, it will be appreciated that compression-molded foam elements can also be incorporated into the side protector portions **24**, **26**, the back protector portion **18**, the telescopic shoulder protector portions **12**, **14**, and the arm protector segments **40**, **42** or various other parts of the garment **10**.

Turning now to FIG. **8**, there is shown a magnified view of the second side front chest protector portion **26** shown in FIG. **2**. This second side chest protector portion **26** is covered with two or more decorative fabric pieces **92**, **94**. These fabric pieces are fastened to each other by way of radio frequency welding techniques to form a bond between the fabric pieces. This feature is beneficial because, in comparison to stitching methods of manufacture, radio frequency welding attaches the fabric pieces **92**, **94** together in a relatively short amount of time. As a result, the manufacturing cycle time and the costs associated therewith can be substantially decreased. This radio frequency weld method also allows smaller more intricate designs to be formed in a smaller area without loss of detail or clarity. It is understood that these fabric pieces **92**, **94** can be comprised of a variety of materials, e.g. a leather material, and create various designs or markings as desired.

Referring now to FIG. **9**, there is shown an enlarged view of the shoulder protector portion **12**. The shoulder protector portion **12** includes a series of inner-side fasteners **96** or detent members for attaching the inner-shoulder protector portion **62** to the outer-shoulder protector portion **60**. Specifically, as shown in FIG. **9**, the fasteners **96** are woven through the apertures **98** to attach the protector portions together. The fasteners **96** also prevent the outer-shoulder protector portion **60** from separating from and moving from a position underlying the inner-shoulder protector portion **62** and exposing a portion of the wearer's shoulder. This construction conceals the fasteners **96** from the exterior of the equipment **10** and consequently contours the exterior of the equipment **10** such that it would be increasingly difficult for an opponent to have a hold on the equipment **10**. The fasteners **96** work in connection with the straps **30**, **32** to keep padding covering the wearer's entire shoulder throughout a full range of motion. Moreover, it is contemplated that various suitable fasteners other than the belt fasteners can be utilized as desired.

While particular embodiments of the invention have been shown and described, numerous variations and alternate embodiments will occur to those skilled in the art. Accordingly, it is intended that the invention be limited only in terms of the appended claims.

What is claimed is:

1. A protective garment comprising:

a chest protector portion having an inner surface and an outer surface, said chest protector portion including a padded portion;

a back protector portion opposing said chest protector portion and having an inner surface and an outer surface, said back protector portion including a padded portion;

a pair of shoulder protector portions coupled to both said chest protector portion and said back protector portion and including a padded portion, each of said pair of shoulder protector portions including an inner surface and an outer surface;

at least one vent opening formed in at least one of said chest protector portion, said back protector portion, and said pair of shoulder protector portions; and

wherein said padded portion of at least one of said chest protector portion, said back protector portion, and said pair of shoulder protector portions includes a compression molded foam that provides increased strength without adding undue weight to the garment.

2. The protective garment of claim **1** comprising:

a rigid cover coupled to said outer surface of at least one of said chest protector portion, said back protector portion, or said pair of shoulder protector portions.

3. The protective garment of claim **1** comprising:

a sternum protector portion secured over an outer surface of said chest protector portion generally in a middle of said chest protector portion.

4. The protective garment of claim **3**, wherein said sternum protector portion includes a compression molded foam portion.

5. A padded protective sports garment, comprising:

a chest protector portion;

a back protector portion opposing said chest protector portion;

a pair of shoulder protector portions moveable with respect to said chest protector portion and said back protector portion, the pair of shoulder protector portions and at least one of the chest protector portion and the back protector portion including a rigid cover;

at least one vent opening formed in the protective garment and extending at least partially through at least one of said chest protector portion, said back protector portion, and said pair of shoulder protector portions;

wherein at least one of said chest protector portion, said back protector portion, and said pair of shoulder protector portions includes a compression molded foam portion that provides increased strength without adding undue weight to the garment.

6. The protective garment of claim **5** wherein

said rigid cover is coupled to at least one of said chest protector portion, said back protector portion, and said pair of shoulder protector portions and wherein said at least one vent opening is formed through said rigid cover.

7. The protective garment of claim **5** comprising:

a sternum protector portion secured over an outer surface of said chest protector portion generally in a middle of said chest protector portion.

8. The protective garment of claim **7**, wherein said sternum protector portion includes a compression molded foam portion.

9. The protective garment of claim **6** wherein the at least one vent opening is formed through the rigid cover and through the compression molded foam portion.

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